

REMARKS

Claims 15 to 31 are pending in the present application. Claims 15, 26 and 29 have been amended.

The drawings were objected to under 37 C.F.R. § 1.83(a). The Office Action alleges that the electrode applied on at least one insulating layer, as recited in claim 15, must be shown or the feature canceled from the claims. The Office Action further objects to the drawings in that Figure 2 does not indicate any cross-sectional-view lines for Figure 4.

Applicants respectfully submit that Figure 2 clearly shows an insulating layer 11 on which first and second electrodes 33 and 33' are respectively placed or applied. Accordingly, the drawings fully show the features presented in claim 15. Furthermore, Applicants have amended Figure 2 to indicate a cross-sectional-view line "I-I" for Figure 4. In view of the above, Applicants respectfully request withdrawal of the objections to the drawings.

Claims 15 to 31 have been rejected under 35 U.S.C. § 102(b) as anticipated by Sato (European Patent Application 0 834 652 A1). Applicants respectfully submit that claims 15 to 31 are not anticipated by Sato for the following reasons.

Amended claim 15 recites a sheathed-element glow plug having a first lead layer made of an electroconductive ceramic material, a second lead layer made of the electroconductive ceramic material, a bar located at an end of the heating element on a combustion chamber side and made of the electroconductive ceramic material, **the first lead layer and the second lead layer being connected directly at the end of the heating element on the combustion chamber side via the bar**. The claimed first and second lead layers may be seen in Fig. 3b as elements 7 and 9, which are connected directly by a bar 8. Claim 15 further recites a first electrode for detecting an ionic current, and a second electrode for detecting the ionic current, the first electrode and the second electrode being one of embedded in the at least one insulating layer and applied on the at least one insulating layer. The claimed first and second electrodes may be seen in Fig. 3a as elements 33 and 33', which are positioned on the insulating layer 11.

To anticipate a claim, each and every element as set forth in the claim must be found in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of Calif.*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Furthermore, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim."

Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). That is, the prior art must describe the elements arranged as required by the claims. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990).

In support of the rejection, the Examiner contends that Sato discloses a first lead layer (9a) and a second lead layer (9b) connected by a bar (14) located at the end of the heating element. However, none of the figures in Sato, including Figures 2 and 14 specifically cited by the Examiner, show that the elements (9a) and (9b) are **“connected directly at the end of the heating element on the combustion chamber side via the bar.”** As shown in Figs. 2 and 14 of Sato, for example, elements (9a) and (9b) are directly connected to the U-shaped heating element 7, and any connection between the elements (9a) and (9b) are made by the heating element 7, but elements (9a) and (9b) are clearly not **“connected directly at the end of the heating element on the combustion chamber side via the bar.”**

In addition to the above, it should be noted that the Examiner's interpretations of the claimed limitations and the alleged equivalents taught in Sato are inconsistent. For example, claim 15 clearly recites that the first electrode, the second electrode, and “a bar located at an end of the heating element” are distinct elements. However, the Examiner contends that element (14) disclosed in Sato is equivalent to both “a bar located at an end of the heating element” and the second electrode recited in claim 15. This interpretation by the Examiner clearly violates the “all elements” rule, which requires that the prior art teach each and every distinct element in a claim.

For at least the foregoing reasons, Applicants respectfully submit that claim 15 is not anticipated by Sato. Similarly, claims 16-25, by virtue of their ultimate dependence on claim 15, are also not anticipated by Sato.

Regarding claims 26-31, the Examiner merely contends that the “method steps of claims 26-31 are inherently performed by the structure of Sato.” However, there are at least two critical flaws in this assertion. First, amended independent claims 26 and 29, from which claims 27-28 and 30-31 depend, recite that **“the first lead layer and the second lead layer are connected directly at an end of the glow plug on a combustion chamber side via a bar,”** which limitations are clearly not taught or suggested by Sato, as discussed above in connection with amended claim 15. Second, to the extent that the Examiner is relying on the doctrine of inherency, the Examiner must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly

inherent characteristics ***necessarily*** flow from the teachings of the applied art." See M.P.E.P. § 2112 (emphasis in original); see also, *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. The Examiner has not provided any explanation of why or how the claimed limitations of claims 26-31 would necessarily flow from the teachings of Sato.

For the foregoing reasons, Applicants respectfully submit that claims 26 and 29 are not anticipated by Sato. Claims 27 and 28 depend from claim 26 and therefore include all of the features of claim 26. Claims 27 and 28 are patentable for at least the same reasons presented in connection with claim 26. Claims 30 and 31 depend from claim 29 and therefore include all of the features of claim 29. Claims 30 and 31 are patentable for at least the same reasons presented in connection with claim 29.

CONCLUSION

In light of the foregoing, Applicants respectfully submit that all of the pending claims are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited.

The Office is authorized to charge any fees associated with this Response to Kenyon & Kenyon Deposit Account No. 11-0600.

Respectfully submitted,

KENYON & KENYON

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